

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1 0002481W001	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/JP2005/012266	International filing date (day/month/year) 27/06/2005	(Earliest) Priority Date (day/month/year) 28/06/2004
Applicant CANON KABUSHIKI KAISHA		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1a-1e

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☒ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/012266

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

According to the present invention, a method for manufacturing a liquid discharge head includes the steps of depositing a solid layer(3) for forming a flow path on a substrate(1) on which an energy generating element(2) is arranged to generate energy that is used to discharge liquid, forming, on the substrate where the solid layer is mounted, a coating layer(4) for coating the solid layer, forming a discharge port(7) used to discharge a liquid, through a photolithographic process, in the coating layer formed on the solid layer, and removing the solid layer to form a flow path(8) that communicates with the energy element and the discharge port, whereby a material used for the coating layer contains a cationically polymerizable chemical compound, cationic photopolymerization initiator and an inhibitor of cationic photopolymerization, and whereby a material of the solid layer that forms a boundary with a portion where the discharge port of the coating layer is formed contains a copolymer of methacrylic anhydride and methacrylate ester.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP2005/012266

A. CLASSIFICATION OF SUBJECT MATTER B41J2/16 G03F7/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) B41J G03F		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, PAJ, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 1 380 425 A (CANON KABUSHIKI KAISHA) 14 January 2004 (2004-01-14) paragraphs '0036! - '0038!, '0041! paragraphs '0052! - '0064! paragraphs '0078! - '0094! figures 1A-2D,10-18 -----	1-9
Y	EP 1 380 423 A (CANON KABUSHIKI KAISHA) 14 January 2004 (2004-01-14) paragraphs '0020! - '0022! paragraphs '0026!, '0028!, '0033! - '0064! figures 1A-1E,5-12 ----- -/--	1-6,9
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : 'A' document defining the general state of the art which is not considered to be of particular relevance 'E' earlier document but published on or after the international filing date 'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) 'O' document referring to an oral disclosure, use, exhibition or other means 'P' document published prior to the international filing date but later than the priority date claimed 'T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention 'X' document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone 'Y' document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. '8' document member of the same patent family		
Date of the actual completion of the international search 16 November 2005		Date of mailing of the international search report 06/12/2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Patosuo, S

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP2005/012266

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 24, 11 May 2001 (2001-05-11) -& JP 2001 179990 A (CANON INC), 3 July 2001 (2001-07-03) cited in the application abstract paragraphs '0010! - '0012! paragraphs '0019!, '0023! - '0060! paragraphs '0075! - '0080! -----	1-9
Y	GB 2 278 845 A (* AJINOMOTO CO INC; * AJINOMOTO CO., INC) 14 December 1994 (1994-12-14) page 13, lines 3-8 -----	1-9
Y	US 2002/019500 A1 (ROTH MARTIN ET AL) 14 February 2002 (2002-02-14) paragraph '0067! -----	1-9
Y	EP 0 411 839 A (CANON KABUSHIKI KAISHA) 6 February 1991 (1991-02-06) page 11, lines 50,51 -----	1-9
A	EP 1 380 422 A (CANON KABUSHIKI KAISHA) 14 January 2004 (2004-01-14) paragraphs '0026! - '0028! paragraphs '0034! - '0049!, '0052!, '0053! paragraphs '0071! - '0092! figures 1A-2D,10-18 -----	1-9
A	US 4 004 043 A (HIRAOKA ET AL) 18 January 1977 (1977-01-18) the whole document -----	1-9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2005/012266

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1380425	A	14-01-2004	CN 1475350 A JP 2004046217 A TW 221122 B US 2004131957 A1	18-02-2004 12-02-2004 21-09-2004 08-07-2004
EP 1380423	A	14-01-2004	CN 1475352 A JP 2004042650 A TW 225448 B US 2004072107 A1	18-02-2004 12-02-2004 21-12-2004 15-04-2004
JP 2001179990	A	03-07-2001	NONE	
GB 2278845	A	14-12-1994	DE 4419874 A1 JP 7056336 A	22-12-1994 03-03-1995
US 2002019500	A1	14-02-2002	NONE	
EP 0411839	A	06-02-1991	JP 3148655 A	25-06-1991
EP 1380422	A	14-01-2004	CN 1476977 A JP 2004042389 A TW 590898 B US 2004070643 A1	25-02-2004 12-02-2004 11-06-2004 15-04-2004
US 4004043	A	18-01-1977	CA 1044068 A1 DE 2642269 A1 FR 2325961 A1 GB 1494309 A IT 1077027 B JP 53043820 B	12-12-1978 31-03-1977 22-04-1977 07-12-1977 27-04-1985 22-11-1978